

CLAIMS

1. A block polymer comprised of a polyalkenyl ether main chain comprising:

a first block segment having hydrophobicity;

5 a second block segment having an upper limit hydration temperature exceeding 70°C; and

a third block segment having an ionic property.

2. A block polymer according to claim 1, wherein the second block polymer is represented by a
10 following general formula (1):



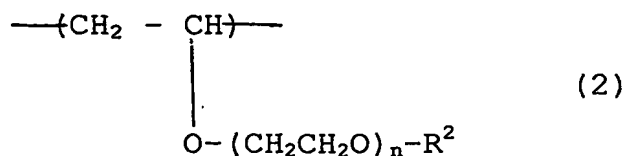
(1)



wherein A represents a unsubstituted or substituted
15 polyvinyl group; B represents a unsubstituted or substituted linear or branched alkylene group with 1 to 15 carbon atoms; m represents an integer from 2 to 50; B is optionally different; and R¹ represents a hydrogen atom, -CH₃ or -C₂H₅.

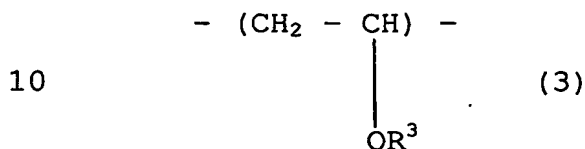
20 3. A block polymer according to claim 1, wherein the third block segment is a block segment showing anionic property.

4. A block polymer according to claim 1, wherein the block segment represented by general
25 formula (1) is represented by general formula (2):



wherein n represents an integer from 2 to 50; and R²
 5 represents a hydrogen atom, -CH₃ or -C₂H₅.

5. A block polymer according to claim 1,
 wherein the first block segment is represented by
 general formula (3):



wherein R³ is selected from a group consisting of a
 linear, branched or cyclic alkyl group with 1 to 18
 carbon atoms, Ph, Pyr, Ph-Ph, Ph-Pyr, -(CH(R⁴)-CHR⁵)-
 15 O)_p-R⁶ and -(CH₂)_k-(O)_l-R⁶ in which a hydrogen atom in
 the aromatic ring is optionally substituted by a
 linear or branched alkyl group with 1 to 4 carbon
 atoms and a carbon atom in the aromatic ring is
 optionally substituted by a nitrogen atom; p
 20 represents an integer from 1 to 18; k represents an
 integer from 1 to 36; l represents 0 or 1; R⁴ and R⁵
 each independently represents a hydrogen atom or CH₃;
 R⁶ represents a linear, branched or cyclic alkyl
 group with 1 to 18 carbon atoms, Ph, Pyr, Ph-Ph, Ph-
 25 Pyr, -CHO, -CO-CH=CH₂, -CO-C(CH₃)=CH₂ or -CH₂COOR⁷ in
 which a hydrogen atom in the aromatic ring is
 optionally substituted by a linear or branched alkyl

group with 1 to 4 carbon atoms, F, Cl or Br, and a carbon atom in the aromatic ring is optionally substituted by a nitrogen atom; R⁷ represents an alkyl group with 1 to 4 carbon atoms.

5 6. A block polymer according to claim 1, wherein the first block segment is comprised of a single repeating unit structure.

 7. A polymer-containing composition comprising the block polymer according to claim 1, a solvent or
10 a dispersing medium, and a functional substance.

 8. A polymer-containing composition according to claim 7, wherein the functional substance is enclosed in the block polymer.

 9. An ink composition comprising the polymer-
15 containing composition according to claim 7, wherein the functional substance is colorant.

 10. A liquid application method comprising the steps of:

 preparing the polymer-containing composition
20 according to claim 7; and

 applying the polymer-containing composition to a medium.

 11. A liquid application apparatus comprising:
 a liquid application means which makes energy
25 act on the polymer-containing composition according to claim 7 to apply the composition; and
 a drive means which drives the liquid

application means.

12. A head kit comprising:

a discharge head for discharging the ink
composition and a container for containing the ink
5 composition to be supplied to the discharge head.